



## A year of 'making history, making a difference'

The Laboratory's 50th anniversary year was one of transition with the accession of a new senior leadership team, organization and operational changes, the construction of new facilities and a focus on new national security missions in homeland security.

Michael Anastasio took over as the Laboratory's ninth director in July, succeeding Bruce Tarter. Glenn Mara became deputy director for Operations and Hal Graboske was appointed acting deputy director for Science and Technology, replacing Jeff Wadsworth, who left the Lab to take a senior executive position with Battelle Corp.

Wayne Shotts, associate director for NAI, was appointed by Anastasio as acting director of the Lab's newly created Homeland Security Organization. Lab veteran Don Prosnitz, who returns to Livermore after serving as chief science adviser to the U.S. Department of Justice, and Harry Vantine, will serve as deputies to Shotts in the new organization, which will serve to focus Lab science and technology efforts in homeland security (see accompanying article on homeland security).

Tomas Diaz De La Rubia was selected as associate director for Chemistry and Materials Science and Jens Mahler returned as acting associate direc-



Energy Secretary Spencer Abraham presents Director Emeritus Edward Teller with DOE's highest honor, the Gold Award, while Lab Director Michael Anastasio looks on.

tor for Engineering.

The Laboratory hired its first full-time chief information officer (CIO), Ken Neves, a computer expert from Boeing.

In one of his first acts as director, Anastasio initiated workforce reviews to ensure the "vitality of the Laboratory's workforce" and assure that the Lab has the people "to meet current and evolving programmatic commitments."

To address the Lab's workforce needs more effectively, Associate Director for Administration

Jan Tulk reorganized and renamed the directorate the Administration and Human Resources Directorate.

The Survey Action Team task force launched new initiatives designed to provide employees with options to better balance work and home obligations. New policies allow employees more flexibility in their work schedules.

There were also a number of operational changes in 2002, such as the merger of Business Services and the Technical Information Department.

As well as celebrating and reflecting on its past 50 years, the Laboratory was building its future with groundbreaking on new facilities for supercomputing and international security research. Construction of the Terascale Simulation Facility, which will house the next-generation supercomputers, began in April. Energy Secretary Spencer Abraham announced

in November the contract with IBM to build what will be the world's two fastest supercomputers — ASCI Purple and BlueGeneL.

The Computation directorate also installed in a refurbished wing of Bldg. 439, one of the most powerful unclassified computer clusters in the world — the 9.2 teraflop Multiprogrammatic Capability Resource (MCR) Linux cluster.

See **TRANSITION**, page 8

## Laboratory focuses on homeland security

In a year that saw the establishment of a new U.S. Department of Homeland Security, Laboratory researchers stayed busy on many fronts in the war against terrorism.

While some employees worked on new technologies here at the Laboratory, others went to Utah to assist in security for the Winter Olympics.

Still others journeyed to Washington, D.C. to provide a helping hand in the transition planning efforts for the Homeland Security Department.

In February, about 45 Livermore employees — working with Los Alamos National Laboratory — deployed a "biological smoke detector" system around various locations in Salt Lake City during the Winter

Olympics. Known as the Biological Aerosol Sentry and Information System, or BASIS, the technology reduces the time for detecting a bioagent release from days or weeks to less than a day.

Later in February, the Laboratory received a top grade in its efforts to be designated as one of only two U.S. research laboratories to conduct tests under the Chemical Weapons Convention treaty. The treaty

outlaws the use or stockpiling of chemical weapons.

In March, in another inter-laboratory collaboration, Lawrence Livermore and Lawrence Berkeley scientists announced they had developed a new

See **HOMELAND**, page 8



### Newsline to spotlight Lab programs in 2003

This recap of the major events and achievements of 2002 launches the first special edition of *Newsline* for 2003.

Throughout the year, *Newsline* will spotlight Laboratory programs and organizations in periodic special sections; among them stockpile stewardship, NIF, environmental programs, homeland security, the Joint Genome Institute, innovative R&D and more.



**Newsline's annual 'Year-In-Review' issue, covering events at the Lab in 2002**



**Training Bulletin**

— Insert





# LAB COMMUNITY NEWS

## Weekly Calendar

**Saturday 11** There will be a scheduled **power outage** from 7 a.m. to 2 p.m. in Bldgs. 442, 443 and 444 and Trailers 5626 and 5627. Contact: Mark Cardoza at 3-0490.

**Monday 13** The Lab's quarterly **blood drive** begins today and continues through Thursday in Bldg. 415. You are encouraged to schedule an appointment in advance at <http://www.beadonor.com> (company code: LLNL) or by calling the LLESA Office at 2-9402. If your schedule does not allow you to make an appointment, the staff will work you into the schedule, as time permits, after the first hour of each drive day. Donor eligibility questions should be directed to the American Red Cross at 1-800-448-3543.

Beginning today, the cashiers at all three cafeterias will be passing out **frequent buyer cards**. Each time you buy a breakfast meal (minimum purchase of \$4.25 and a maximum redemption value of \$5.25) or a lunch meal (minimum purchase of \$5.25 and a maximum redemption value of \$6.25) you will receive a credit. When you obtain seven credits, your next meal is free. This special buy will end Monday, March 31.

In an effort to reduce the long noon hour cashier lines, the **Central Cafe** only is offering an "early bird special." Employees who eat lunch between 11 a.m. and 11:30 a.m. at the Central Cafe will receive a 5 percent discount on any purchase over \$5.25.

**Wednesday 15** All proposals for the **2003 R&D 100 Awards**, drafts and photos/videos are due to Lisa Chartrand today, for the internal review process. If you haven't already advised IPAC that you will be submitting a proposal, please do so ASAP. Contact: Lisa Chartrand, 2-2297.

**Thursday 16** The **LLL Women's Association** will host its annual scholarship awards ceremony at noon in the Bldg. 543 auditorium. AD Dona Crawford will present the awards to eight Lab employees. All employees are invited.

The Lab is hosting a program honoring **Martin Luther King Jr.**, from 1:15-3:15 p.m. in the Bldg. 543 auditorium. The event will feature student essay readings, scholarship awards, keynote speaker James Evans and a musical performance by the Berkeley Black Repertory Group. A reception will follow the performance in the West Cafeteria. Contact: Diversity and Work/Life Programs Office, 2-9543.

The Staffing and Employment Development Department is launching a new institutional recruiting and hiring Web-based system, **LHire**. Implementation of this system will be phased with the initial roll-out beginning on Tuesday, Jan. 21. A demo for employees providing an applicant's perspective is scheduled for noon today in Bldg. 571, room 2301. Contact: Dawn Cunningham, 3-6034.

## IN MEMORIAM

### Mary Kimberly 'Molly' Lawrence

Mary Kimberly Lawrence, better known as "Molly," widow of Berkeley Lab founder and namesake Ernest O. Lawrence, died Monday, Jan. 6, at the ManorCare nursing home in Walnut Creek. She was 92.

A memorial service will held be at the Lawrence Hall of Science, 100 Centennial Drive, Berkeley, Fri-

day, Jan. 24, 2003, at 4 p.m. In lieu of flowers or other gifts, donations may be made to the Lawrence Hall of Science. Checks can be mailed to the University of California, Berkeley Resource Development, Lawrence Hall of Science #5200, Berkeley, 94720-5200.

Look for additional coverage in the Friday, Jan. 17 edition of *Newsline*.

### Robert J. Howerton

A special musical concert to celebrate the life of Lab retiree Robert J. "Bob" Howerton will be held on Sunday, Jan. 19, at 3 p.m. at the Valley Christian Center in Dublin. Howerton died at his Dublin home on Dec. 29 from a brief illness following a stroke. He was 79.

Howerton was born Sept. 27, 1923, in Indiana, and met his wife, Bea, while they were stationed in Algeria during World War II — he was in the Navy and she was in the Women's Army Corps. They married upon returning from the war and in 1948, he earned a master's degree from Northwestern University in Chicago.

The couple then moved to Denver and Idaho, where Bob taught and worked. Tired of the Idaho winters, in which he said the "snow fell horizontally," Howerton moved to Alamo in 1957 and accepted a job at Lawrence Livermore Laboratory, where he worked until he retired in 1986.

Howerton was a pioneer with an international reputation in the field of nuclear data evaluation. He developed one of the great nuclear data libraries that serves today as a critical foundation for the Lab's ability to maintain the nuclear stockpile without nuclear testing.

After retirement, he worked as a consultant for the Lab's Nuclear Data Group for many years and was a Laboratory Associate in B Division at the time of his death.

Howerton is survived by his best friend, Carol Da Shiell, and his adopted family of Carol and Judge William Cahill. He was preceded in death by his wife of more than 40 years, Beatrice Howerton, in 1988.

Memorial services have been held. Memorial donations may be sent to the San Jose Chamber Orchestra, 19 N. Second St., Suite 102, San Jose, 95113 and made payable to the "Howerton Memorial Fund."

## Technical Meeting Calendar

**Friday 10** **INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
"Active Learning With Multiple Views," by Ion Muslea, University of Southern California. 10 a.m., Bldg. 451, room 1025 (uncleared area). Contacts: Tina Eliassi-Rad (CASC), 2-1552, or Leslie Bills, 3-8927.

**Monday 13** **LASER SCIENCE & TECHNOLOGY SEMINAR**  
"Initial Experiments on Mercury, a Diode Pumped Solid-State Laser for Fusion Applications with Design Goals of 10 Hz / 10% Efficiency," by Andy Bayramian. 11 a.m., Bldg. 481 auditorium, room 1000. Contact: Helen Hoppock, 2-7715 or hoppock1@llnl.gov.

**UNIVERSITY RELATION'S POSTDOC FELLOWSHIP PROGRAM**  
"Feedback Cooling and Excitation of a Single Electron in a Penning Trap," by postdoc fellowship candidate Brian D'Urso, Harvard University's Department of Physics. 10 a.m., Bldg. 219, room 163 (badge required). Contact: Edie Rock, 4-4035.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
"Geometric Programming with a Functional Language," by Alberto Paoluzzi, Third University of Rome, Italy. 10 a.m., Bldg. 451, room 1025 (uncleared area). Contacts: Valerio Pascucci (CASC), 3-9422, or Leslie Bills, 3-8927.

**Tuesday 14** **LC CUSTOMERS MONTHLY MEETING AND MCR STATUS**  
9 a.m., Bldg. 111 Poseidon Room( cleared area).

**Wednesday 15** **ENERGY & ENVIRONMENT DIRECTORATE**  
"The Las Vegas Valley Seismic Response Project: Understanding Strong Ground Motion in Las Vegas Valley From Possible Future Nuclear Tests at NTS," by Arthur Rodgers, Seismology Group, Earth Science Division. 3 p.m., Bldg. 543 auditorium (uncleared area). Refreshments will be served. Contact: Camille Vandermeer, 3-2672.

**COMPUTING RESOURCE CENTER**  
Veritas representatives will demonstrate Netbackup Data-Center, a backup and recovery system . 10 a.m., Bldg. 361 auditorium (uncleared area). Light lunch served following the presentation. RSVP your attendance. Contact: Amy

Smith, Amy.Smith@wwt.com or Candace Gittins, gittins1@llnl.gov.

**INTEGRATED COMPUTING & COMMUNICATIONS DEPARTMENT**  
Macintosh Technical Seminar Series will feature a Macworld Expo San Francisco 2003 wrap-up by Apple Senior Systems Engineer Ron Ustach. 10:30 a.m., Bldg. 543 auditorium (uncleared area). Contact: Duane Straub, 2-9774.

**MATERIALS RESEARCH INSTITUTE SEMINAR**  
"Structure of Single Molecules and Nanostructures by Positron Field Emission Microscopy," Allen P. Mills Jr., UC Riverside. 3:30 p.m., Bldg. 219, room 163 (badge required). Contact: Phil Sterne, 2-2510, or Dawn Brosnan, 4-5008.

**Thursday 16** **RADIATION DETECTION CENTER**  
"First Results from the KamLAND Experiment," by Giorgio Gratta, Stanford University. 11 a.m., Bldg. 151, room 1209 (uncleared area). Contact: Gregory Schmid, 3-7866, or Christie Shannon, 3-6683.

**CENTER FOR GLOBAL SECURITY RESEARCH**  
"The Futures of Pakistan: The Good, The Bad, and The Very Ugly," by Stephen Cohen, Brookings Institution. 2 p.m., Bldg. 132 south, Summit Room 1784 (uncleared area). Contact: Tami Alberto, 2-5969.

**Friday 17** **PHYSICS**  
"Perturbative Effective Theory Within An Oscillator Basis," by Tom Luu, University of Washington. 10:30 a.m., Bldg. 211, room 227 (badge required). Contact: Erich Ormand, 2-8194.

## Newsline

*Newsline* is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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THE YEAR IN REVIEW 2002

A recap of events and achievements in 2002

Editor’s note: Below is a month-by-month recap of the major events of 2002, yet another year in which the Laboratory lived up to its motto of “science in the national interest.” This is a selection of events and achievements. There were simply too many to list them all.

January

Science & technology

Lab scientists create a “virtual” guide star over Hawaii using adaptive optics to greatly increase the resolution of fine details of astronomical objects. In collaboration with the W. M. Keck Observatory, the LLNL adaptive optics system enables astronomers to minimize the blurring effects of the Earth’s atmosphere, producing images with unprecedented detail and resolution.

Lab employee Chris Fragile presents preliminary findings using a computer simulation that helps explain unusual periodic timing properties seen in X-rays being emitted near many suspected black holes. The research is of particular interest to NASA because it simulates a system similar to what a NASA Observer might see when it looks at a black hole.

Three private companies move into the Tri-Valley Technology Enterprise Center at the Laboratory. TTEC, which opened in the fall of 2001, was created to act as a bridge between the local national laboratories and the region’s technology community

The Lab joins forces with the Bay Area Rapid Transit District, Chabot Las Positas Community College District and the Economic Development Alliance for Business to develop virtual reality training for BART train operators.

People

Secretary of Energy Spencer Abraham visits the Nevada Test Site and tours Livermore facilities at U1a, the underground subcritical experiment laboratory, located nearly 1,000 feet beneath the surface at NTS.

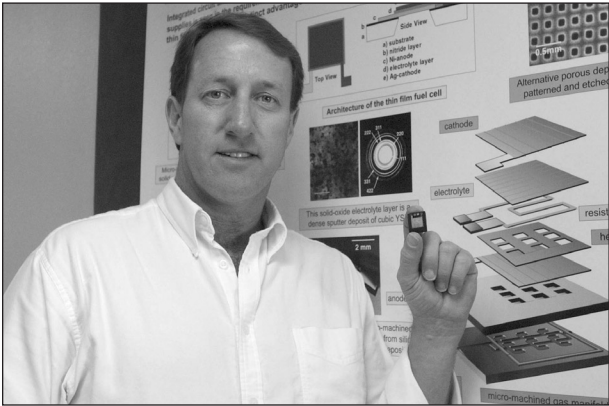
Director Emeritus Edward Tellers celebrates his 94th birthday.

Two Lab research teams, one for continuous melting for laser glass and the other for biomineralization and crystal growth, are honored with the 2001 Science and Technology Awards.

National Ignition Facility construction teams are honored for the completion of conventional facilities.

Glenn Mara, a 30-year employee with engineering, national security and defense program experience, is selected as the new associate director for Engineering.

One hundred of the country’s highest-ranking judges visit the Lab for extensive overviews on the science of bioterrorism during a three-day Conference of Chief Justices.



Jeff Morse shows a sample of a fuel cell stack for the miniature thin-film fuel cell power source.



Among the BASIS team members honored in March were (from left) Kris Montgomery, Julie Avila, Mark Wagner, Virginia Montgomery, Paula McCready, Cheryl Strout and Jackie Cofield.

Operations

The UC Board of Regents begins the official process to select a new Laboratory director and solicits employee input.

LLNL and Sandia begin exploring the feasibility of controlling access to East Avenue between Vasco and Greenville roads as part of heightened security across the nation following the September 11 events.

The Lab’s Integrated Safety Management Program is streamlined so that outdated information is deleted or revised.

february

Science & technology

Livermore and Los Alamos researchers team to develop the Biological Aerosol Sentry and Information System, or BASIS, and use it as part of the security network at the 2002 Winter Olympics in Salt Lake City.

The Lab’s Center for Microtechnology Engineering develops and demonstrates a laboratory prototype miniature thin-film fuel cell power source, which provides portable electrical power for a range of consumer electronics.

The Laboratory is awarded an “A” grade for its identification of three “blind” chemical samples by the Organization for the Prohibition of Chemical Weapons. The award moves the Lab a step closer to its bid as the second U.S. facility for conducting tests under the Chemical Weapons Convention treaty.

Atmospheric scientists from the Lab’s National Atmospheric Release Advisory Center create a three-dimensional simulation of how a biological or chemical release could spread in and around Salt Lake City. The simulation was created in case of an accidental release or terrorist attack at the site of the 2002 Winter Olympics.

John H. Marburger III, science adviser to the president and director of the Office of Science and Technology Policy, discusses the impact of Sept. 11 on science during a visit and tour of the Laboratory.

People

Astronaut duo and married couple Tammy Jernigan and Jeff Wisoff join the Laboratory as assistant associate director for special projects in the Physics & Advanced Technologies Directorate and deputy associate project manager for Systems Engineering for the National Ignition Facility Project, respectively. The couple first arrived at the Lab in the fall of 2001.

Karen Kiernan, special project manager for Public Affairs and a longtime supporter of education and the Livermore community, earns the Livermore Chamber of Commerce’s 2001 Education Award.

Lab employees Paul McCandless and his wife Jill Farrell help officiate the biathlon (skiing and shooting) events at the 2002 Winter Olympics in Salt Lake City.

Lab physicist Bruce Remington discusses “Laboratory Astrophysics Using High-Power Lasers,” during the 2002 annual meeting of the American Association for the Advancement of Science.

Abbie Warrick, an Engineering employee who has worked on the Lab’s Extreme Ultraviolet Lithography Project, receives a prestigious International SEMATECH Corporate Excellence Award.

Operations

About 30 security inspectors from the Department of Energy’s Office of Independent Oversight and Performance Assurance conduct a comprehensive site security inspection from Feb. 4 – March 8.

The Laboratory explores the possibility of adding new facilities to expand its role in the area of biological science and biodetection and operate as a Biosafety Level 3 facility.

For the first time ever, the Laboratory achieves an overall rating of “outstanding” for science, management and operations as assessed by the National Nuclear Security Administration .

Managers agree to add convenience services such as dry cleaning and mail and package delivery and include a 9/80 workweek option and other flexible schedule options as a result of recommendations from the employee survey.

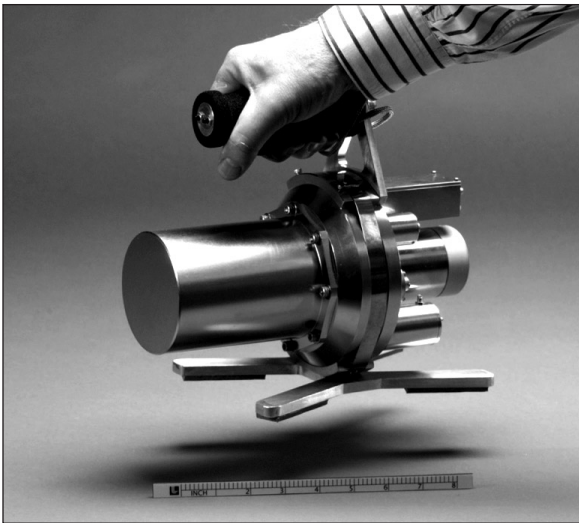
march

Science & technology

The Biology and Biotechnology Research Program is restructured, moving from two divisions to six: Biodefense, Genome Regulation and Function, Health Effects Genetics, Environmental Microbiology, Computational Systems Biology, and Quantitative Structures and Dynamics.

Lab scientists conduct a workshop in Washington, D.C. to inform Congress and policymakers of ways in which science and technology collaborations can advance regional stability and security in Central Asia.

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This portable radiation detector finds and identifies radioactive material. It can operate for eight hours using two camcorder batteries.



# 2002 THE YEAR IN REVIEW

## 2002

Continued from page 3

Scientists at Lawrence Livermore and Los Alamos national laboratories complete two of the largest computer simulations ever attempted, the first full-system three-dimensional simulations of a nuclear weapon explosion.

The Center for Global Security Research announces a postdoctoral fellowship program named for the Laboratory's first director, Herbert York.

In honor of the Lab's 50th anniversary, the Center for Global Security Research launches a series of workshops looking at the next 50 years in "Science and Technology for National Security: Pioneering the Endless Frontier."

Collaboration between scientists at Lawrence Livermore and Berkeley laboratories produces a mobile, handheld, mechanically cooled germanium radiation spectrometer.

Nearly 300 Tri-Valley middle and high school students participate in the Tri-Valley Science & Engineering Fair co-sponsored by the Laboratory.

Lab scientists present special sessions on "Homeland Security: Science and Counterterrorism" at the Materials Research Society spring meeting.

### People

Harry Vantine, program leader for Counterterrorism and Incident Response within the NAI directorate, testifies before the U.S. Senate Foreign Relations Committee. Much work has been done to combat nuclear terrorism, but continued efforts are needed, he testifies.

Energy and Environment AD C.K. Chou is honored by the Chinese American Networking Group for his continuous support.

Employees who deployed the Biological Aerosol Sentry and Information System, or BASIS, at February's Winter Olympics and in other U.S. cities are honored at an outdoor ceremony.

Lab physicist Charles Carrigan is selected as a recipient of the prestigious Fulbright Scholar award to the United Kingdom and is invited by the Department of Earth Sciences at Cambridge University to pursue research in the UK.

Lab Executive Officer Ron Cochran testifies in New Mexico in front of the California Senate Select Committee on the Oversight of the DOE Laboratories operated by UC.

Lab researchers Peter Beiersdorfer and Mark May are participants in one of two new projects nationwide to win a fusion research grant from the Department of Energy's Office of Fusion Energy Sciences.

### Operations

NNSA Administrator John Gordon announces plans to streamline the operation of the nation's nuclear weapons complex. The plan is to include a mixture of redeployment and retraining of some employees at the Oakland Operations Office and Livermore Site Office.

Associate deputy directors Merna Hurd and Lee Younker begin the Workload Reduction Initiative in an effort to reduce the administrative workload of scientists, engineers and other researchers.

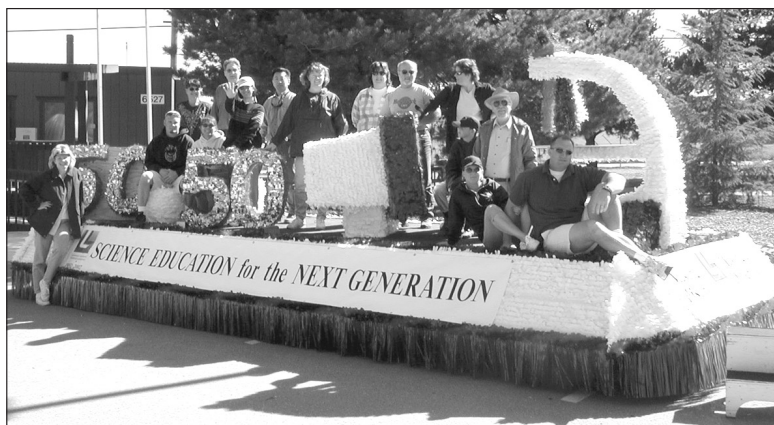
Director Bruce Tarter's 2002 "A List" identifies 10 objectives that define the most important institutional goals for senior management in the coming year.

The Lab's special anniversary parade float debuts at the Dublin St. Patrick's Day parade.

A contract for construction of the Terascale Simulation Facility is signed with M.A. Mortenson Company's Advanced Technology Group. The \$54.45 million contract covers construction of the 253,000-square-foot facility that will house the next generation of ASCI computers.

Capping more than five years of study, Lab Fire Chief Randy Bradley announces that the Alameda County Fire Department, Alameda County Emergency Medical Services Agency, Alameda City Fire Department, and the Laboratory will form a consortium to consolidate emergency dispatch services.

In the ninth annual report of the UC President's Council on the National Laboratories, Bill Friend tells the



The Lab's float featured a larger-than-life microscope and computer, along with signs extolling science, engineering and technology.

Regents the University of California should be "proud of the service the laboratories render and the resource they are to the nation."

## april

### Science & technology

Rep. Ellen Tauscher, UC Vice President John McTague and Lab Director Bruce Tarter break ground for the International Security Research Facility. The new two-story building will consolidate Livermore's nonproliferation and intelligence-related operations into a single building.

Construction of the Terascale Simulation Facility officially gets under way in a groundbreaking ceremony attended by Rep. Ellen Tauscher, community leaders and Lab officials.

The Lab's heavy ion fusion group, part of Fusion Energy Programs, reaches a major milestone with the dedication of its injector test stand, otherwise known to the fusion energy physicists as STS-500, a 500-kilovolt ion source test stand in Bldg. 341.

Jeff Wadsworth, deputy director for Science and Technology, tells a plenary session of the Materials Research Society that the post-September 11 terrorist threat environment has "created an intense and compelling set of concerns" and is challenging the scientific community to develop new countermeasures on an accelerated time-frame.

Through laser experiments, Lab physicists determine that deuterium, an isotope of hydrogen, turns into a metal at a higher density than research performed at Sandia National Laboratory.

Scientists successfully complete a 28-kilometer high-capacity laser communication link between the Laborato-

See 2002, page 5



Laser Communications team member Jeff Cooke stands next to the transceiver telescope on top of Mount Diablo.

in 2002

## Quotables

"Mike Anastasio emerged as the right person for this very important position. Throughout a 22-year career at Lawrence Livermore, he has distinguished himself as both a brilliant scientist and skilled administrator with the right combination of theoretical and practical experience to maintain the Laboratory's historic place on the cutting edge of science."

— UC President Richard Atkinson  
in naming Michael Anastasio LLNL director

"The best part of this job has always been making things happen for other people."

— Bruce Tarter on serving as Lab director

"I've been from Baghdad to Biosphere 2, from the Security Council to the Situation Room in the White House. As an experimental physicist, you don't imagine doing that..."

— AD Jay Davis on his career

"Just as the Laboratory helped the nation win the Cold War, this facility will enable the Lab to help the nation win the war on terrorism."

— Rep. Ellen Tauscher  
during the groundbreaking ceremony for the International Security Research Facility

"Space flight is much less physically demanding than having a baby. This is a real challenge."

— Tammy Jernigan, assistant associate director for special projects in the Physics & Advanced Technologies Directorate

"The missions that drive this Laboratory each day have never been more important. The role you play here is absolutely vital."

— DOE Secretary Spencer Abraham

"We're setting up this organization to be lean, mean and agile."

— Wayne Shotts on LLNL's new Homeland Security Organization

"We see science and technology doing for counterterrorism what it did for national security over the last 50 years in winning the Cold War."

— Penrose Albright of the Homeland Security Department

"This important milestone marks the transition of the NIF from a construction project to an integrated light producing facility. NIF is well on its way to becoming an unequalled national scientific research venue."

— Director Michael Anastasio

"I'm not sure, but it's worth a try."

— Director Emeritus Herb York's answer to E.O. Lawrence after being asked to serve as the Lab's first director

"I think one day we'll find something.... Of course the other possibility is that they're already here."

— Sir Arthur C. Clarke, on the search for extraterrestrial life

"My view of management is that it truly is a contact sport."

— Glenn Mara on his management style of getting out of his office as much as possible

"Plutonium came to symbolize everything nuclear. No other element in the periodic table has had that kind of burden to bear."

— Sig Hecker, former LANL director in DDLs talk



# THE YEAR IN REVIEW 2002

## 2002

*Continued from page 4*

ry and Mount Diablo. The achievement represents one of the longest terrestrial high-capacity air-optics links in existence.

### People

Diversity speaker Jan Elliott, widely known for her “Blue Eyes, Brown Eyes” discrimination experiment, speaks at the Lab in a talk sponsored by the Affirmative Action & Diversity Program.

Michele French, executive director for Workforce Planning in the UC Office of the President, tells Lab employees health care in California is in “something of a state of chaos” and is likely to stay that way for awhile.

### Operations

The effort to implement the recommendations by the Employee Survey Action Teams is announced by Tommy Smith in a Director’s Office column.

The work of administrative specialists is celebrated during a two-day workshop attended by more than 240 employees in the 405 job classification.

UC’s special advisory committee begins interviewing candidates for the Lab’s next director.

MyLLNL, an intranet “portal,” offers a new way for employees to access Laboratory unclassified information.

Thirty-eight new officers join the ranks of the Lab’s Protective Force Division after successfully completing their seven-week training stint at the Central Training Academy in Albuquerque.

Administration AD Jan Tulk announces a reorganization of HR functions and changes the name of the directorate to Administration and Human Resources.

In recognition of its commitment to support employees as they balance work/family responsibilities, Child Care Links and the cities of Livermore, Pleasanton and Dublin present the Lab with a Family Friendly Award.

In conjunction with its 50th anniversary, the Lab expands its public tour program to offer more tours each month as well as more stops along the way.

## may

### Science & technology

In a pilot program to demonstrate how capabilities of the Lab’s National Atmospheric Advisory Center (NARAC) could help regional authorities combat bioterror, the Local Integration of NARAC (LINC) With Cities program is established and Seattle is selected as a pilot city. The program provides local agencies with chemical and biological agent atmospheric plume prediction capabilities.

Lab scientists with collaborators at Northern Arizona University and Los Alamos National Laboratory announce that they have discovered new DNA regions unique to the bacterium that causes anthrax, potentially providing a way to improve detection of the disease.

DOE’s Joint Genome Institute in Walnut Creek is enlisted to help safeguard public health by determining the whole genome sequences of a variety of infectious bacteria — a first step toward developing tests to rapidly identify the presence of such bacteria in the environment.

Lab biomedical scientist Paula McCready discusses how Lab technologies developed to fight bioterrorism can also be applied to detecting naturally occurring pathogens in food at a session of the American Society for Microbiology.

Lab technologies are featured at the Tri-Valley Technology Enterprise Center’s Tri-Valley Software Showcase, notably a combustion method developed by Lab engineers that results in lower power plant pollutant emissions by combining stage combustion with nitrogen-enriched air.

### People

Kenneth W. Neves, a computer and information technology expert from Boeing, is selected as the Lab’s first full-time chief information officer (CIO).

Lab physicist Claire Max is named a fellow of the American Academy of Arts and Sciences.

Former Lab AD Harry Reynolds, who led design, development and testing in the weapons program in a career spanning 25 years, dies at age 77.

Former Los Alamos National Laboratory Director



**Jim Lopez shares the Lab’s Family Friendly award with preschoolers at the Children’s Center.**

Sig Hecker delivers a DDLS talk on the history of plutonium.

DDLS speaker Christopher Chyba, co-director of Stanford University’s Center for International Security and Cooperation, discusses strategies for biological security.

Frederick Burkle Jr., senior medical and public health adviser at the Defense Threat Reduction Agency, delivers a CMS Directorate Frontiers Symposium lecture on “The Public Health Implications of a Large-Scale Bioterrorist Event: Requirement for Advanced Surveillance and Response Systems.”

Lab forensic scientist Brian Andresen is recognized with two awards by the Glendale Police Department for the role he and other Lab researchers played in solving the Southern California “Angel of Death” murder case.

### Operations

The Laboratory hosts “Back to Nature, Down to Earth,” an event showcasing the science of nature and wildlife, at the Visitors Center (now called the Discovery Center).

Lab employees Sal Ruiz, Beverlee Morales, Jose Pineda and Dennis Ouka of Fleet Management receive the EPA Champion of Green Government Award for implementing pollution prevention practices at the Lab’s fleet maintenance facility.

Students from San Francisco State University’s hydrogeology class visit the Lab to learn about techniques used by the Environmental Restoration Division to characterize, monitor, target and clean up environmental contaminants.

The Lab’s expanded community tour program gets



**Michael R. Anastasio, left, was named Lab director in June. He replaced Director Bruce Tarter on July 1.**

under way.

The Lab launches a pilot school tour program for local public elementary school students.

## June

### June 24-28 “Then and Now Week”

In the first major events of the 50th anniversary celebration, Laboratory organizations and programs hold a series of special presentations, discussions and show films about how the Laboratory has changed since its founding in 1952.

A number of Lab organizations, including Chemistry and Materials Science, the Director’s Office, University Relations Program, Chief Financial Officer’s Office and Laboratory Services host picnics or special receptions.

Other highlights include:

- A film festival focusing on the 50-year evolution of Lab accomplishments in leadership, engineering, computation, lasers and nuclear weapons.

- The Defense and Nuclear Technologies Directorate conducts a three-day seminar on “Technical Innovation in Weapons Research.” Distinguished panelists and presenters include Edward Teller, Michael Anastasio, Johnny Foster, Bob Kuckuck, Bob Barker, Phil Coyle, Robert Clough, Ron Lehman, Bill Lokke, Seymour Sack and Bill Nelson.

- Physics and Advanced Technologies (PAT) holds a series of retrospectives covering such topics as magnetic fusion, inertial confinement fusion, astrophysics, X-ray laser and global terrorism. Guest speakers include former directors Michael May and John Nuckolls and Nobel Laureate Bob Laughlin.

- Administration and Human Resources Directorate displays a “Family Album” of photos capturing employees at work, play and helping others over the last 50 years.

- The Energy and Environment Directorate invites former leaders Art Lewis, Roy Austin and Doug Stephens of energy programs to participate in a panel discussion on energy research and past energy crises. Topics include the Plowshare Program, coal gasification and geothermal energy.

- The Safety, Security and Environmental Protection Directorate holds a panel discussion on the history of security and EPD at LLNL with Duane Sewell, Phil Schiedermayer, Max Biggs and Harry Galles.

- National Ignition Facility (NIF) team hosts an open house featuring special displays.

- NAI also holds a panel discussion and holds a picnic.

### Science & technology

The UC Board of Regents Committee on Oversight of the DOE Laboratories meets at the Laboratory to receive an overview of LLNL programs and tour such Lab facilities as the National Ignition Facility.

Lab researchers, who are key partners in the UC Santa Cruz-based Center for Adaptive Optics, participate in the dedication of the center’s new building.

Sabre Coleman kicks off the second year of the African American Lecture Series with a talk on “A Study of the Use of Hydrophobic Silica Aerogel and Granular Activated Carbon Composite for the Removal of Uranium from Ground Water.”

### People

Michael Anastasio is named the new Laboratory Director by the UC Board of Regents in an announcement by UC President Richard C. Atkinson.

NNSA Administrator Gen. John Gordon announces he is leaving the agency to join the White House as deputy assistant to the president, national director and deputy national security adviser for combating terrorism.

Deputy Director for Science and Technology Jeff Wadsworth announces he is resigning to join Batelle Corp. as a senior executive.

Lab chemist Leonard Gray is awarded the prestigious 2002 (Glenn) Seaborg Medal at the national conference of the American Nuclear Society.

Former Sen. Sam Nunn of Georgia, a co-sponsor of the legislation that created the Cooperative Threat Reduction Program, visits the Lab to discuss efforts to safeguard weapons of mass destruction in former Soviet states.

The Lab’s 50th anniversary float and LLNL’s Cool Scientists Drill Team march off with first place awards at

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# 2002 THE YEAR IN REVIEW

## 2002

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the Alameda County Fair Parade in Pleasanton.

Michael Anastasio testifies before the House Armed Services Military Procurement Subcommittee, his first appearance before a congressional committee since being named Lab director.

### Operations

NNSA announces it will begin preparing a new sitewide Environmental Impact Statement (EIS) for LLNL.

New Lab policies on flexible work schedules are announced in response to recommendations made in the employee survey.

A team from DOE's Office of Independent Oversight and Assurance Inspection conducts an audit of Lab's Integrated Safety Management program.

A new South Mall Shuttle service is inaugurated.

The Telecommunications and Site Utilities Department announces its new name: Utel, "your connection to onsite utilities."

In response to the employee survey, LLESA's Time Zone offers United Parcel Service to Lab employees.

## july

### Science & technology

Lab atmospheric scientists for the first time perform global climate simulations with spatial resolutions of roughly 50 kilometers or 30 miles.

The nation's first large-scale partnership between a university cancer center (UC Davis Cancer Center) and a national laboratory (Lawrence Livermore) achieves National Cancer Institute designation.

Astrophysicist John Bradley finds that some nanodiamonds, the most famous and exotic form of stardust, may have formed within the inner solar system.

NIF installs the 100th LRU or "line replaceable unit" in a significant step toward "early light."

An international research consortium led by the Joint Genome Institute (JGI) reports on the draft sequencing, assembly and analysis of the genome of the Japanese pufferfish *Fugu rubripes*. JGI is jointly operated by Lawrence Livermore, Lawrence Berkeley and Los Alamos national laboratories.

### People

Director Michael Anastasio testifies before the Senate Energy and Natural Resources Committee on the role of the NNSA in homeland security.

Mark Herrmann, a physicist in X Division, and ASCI Flash employee Paul Ricker are among the 60 winners of the Presidential Early Career Award for Scientists and Engineers (PECASE).

Jay Davis, former AD and most recently the first National Security Fellow at the Lab's Center for Global Security Research, retires.

Glenn Mara is announced as interim Deputy Director for Operations; Hal Graboske is announced as Special Assistant to the Director on science and technology.

For the second year in a row, a grassroots coalition of employees organizes a Cancer Awareness Campaign.

C. Bruce Tarter is honored in a ceremonial tribute to his years as Laboratory director.

Physicist Willy Moss is elected a fellow of the Acoustical Society of America.

Francois Heuze of the Geophysics and Global Security Division is elected president of the American Rock Mechanics Association for a two-year term.

Gini Curran, a MIT Ph.D. candidate, is awarded the first-ever Darleane Hoffman Fellowship from the Chemistry & Materials Science Directorate's Glenn T. Seaborg Institute.

### Operations

Engineering directorate celebrates "Then and Now" days, featuring Duane Sewell, founding father of Engineering at the Lab, and Hank McDonald, the first AD of the Engineering Directorate.

Lab Fire Dispatch begins consolidated dispatch for



Barbara Costella Anderson sitting at a teletype machine that was on display in the LLNL Computer History Museum.

Alameda County Fire, Alameda County Emergency Medical Services, Alameda City Fire and Lab Fire.

The Livermore Computing History Museum opens in Bldg. 439.

Demolition begins on Bldg. 177, the original home of the Atomic Vapor Laser Isotope Separation or AVLIS program.

Environmental assessment is filed for the announcement of a BSL-3 Facility to help fight bioterrorist agents or infectious diseases that could be used against Americans.

Lab embraces work-life amenities as a result of employee Survey Action Team findings.

## august

### Science & technology

Lab physicists introduce the Advance Photon Source at Argonne as part of LLNL's role in the High Pressure Collaborative Access Team.

NIF announces a safety record as it surpasses 2 million work hours and 582 consecutive days without a single lost-time injury on site.

CAMS researcher Tom Guilderson learns 250,000 years worth of Gulf of Alaska history by analyzing samples of coral, seawater and sediment that he retrieved from there.

The "Daughter" of PEREGRINE joins fight against cancer through improvements in radiation therapy.

NAI announces testing of commercial instruments, as well as new technologies under development to detect nuclear materials inside cargo containers.

Lab researchers learn that the depth of an injection of carbon dioxide into the deep ocean predicts how effective that location is at sequestering carbon away from the atmosphere.

The Joint Genome Institute looks to the African frog for clues on evolution and human gene functions.

### People

An open house honors Jeff Wadsworth as he moves from deputy director for Science and Technology to senior executive at Batelle Corp.

Director Emeritus Edward Teller signs copies of his memoirs, "A Twentieth-Century Journey in Science and Politics," and answers questions from summer students.

Hal Graboske is appointed acting deputy director for Science and Technology.

Margaret Chu, director of DOE's Office of Civilian Radioactive Waste Management, visits Livermore to review Lab work on the Yucca Mountain Project.

Former astronaut and Ohio Senator John Glenn visits as part of 50th anniversary activities.

Undersecretary of State John Bolton visits the Lab to tour NIF and the Center for Global Security Research.

### Operations

The Strategic Operations Forum streamlines the Lab's Work For Others proposals.

Computation hosts "Then and Now Day." The event includes videos, a panel of speakers and a reception at the LLNL Computer History Museum. More than 100 retirees and guests attend.

Three professors return to Merced College to practice what they learned, after spending six weeks in Biology and Biotechnology's summer research program at the

Lab.

The Tri-Valley Enterprise Center (TTEC), a joint effort between the Tri-Valley Business Council, Livermore and Sandia labs, Pacific Gas & Electric Co., the City of Livermore, the office of Rep. Ellen Tauscher and the Department of Energy, opens at the Lab.

Lab co-sponsors a two-day conference with the Council of Energy Resource Tribes on energy solutions.

Twenty-four undergraduate students from across the country attend the Lab's Undergraduate Summer Institute, a two-week research program that culminates with a poster session.

## september

### Anniversary Week

In September, the Laboratory turns most of its attention to its 50th anniversary. Because the official date, Sept. 2, falls during the Labor Day holiday weekend, the Laboratory notes the occasion through a special anniversary edition of *Newsline*, with an invitation to all employees to participate in a special weeklong celebration of events.

The weeklong slate of events begins with 1952 Day, in which members from the original corps of 75 employees return to offer their thoughts and insights on the Lab's early days. Among the special guests is Robert Lawrence, son of co-founder and Lab namesake E.O. Lawrence.

Science Day, the second day of Anniversary Week, puts the spotlight on four areas of research in which the Lab is considered a pathfinder — biological research, climate modeling, astrophysics and fusion research. Played out before packed audiences, each session takes a trip to the past and jaunts into the future of research for the particular area.

Community leaders from around the Bay Area tour the Lab facilities and programs during Special Guest Day, the third day of Anniversary Week. During the day almost 200 special guests tour NIF, counterterrorism and medical technology programs, as well as attend special panel discussions on counterterrorism, stockpile stewardship, education and more.

Former astronaut and Sen. John Glenn Jr. appears before a standing room only gathering of employees in the Bldg. 123 auditorium, where he recalls his Mercury and space shuttle flights. Glenn later visits the newly remodeled Discovery Center for its grand opening, as well as the dedication of a special 50th anniversary time capsule.

The day concludes with a chamber mixer featuring hundreds of community leaders.

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The Lab's Diversity Day on the Green featured a number of cultural performances, exhibits and ethnic cuisine.



## THE YEAR IN REVIEW

2002

## 2002

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A special director's panel discussion brings together former directors Herb York, John Foster, Mike May, John Nuckolls and Bruce Tarter for the fourth day of Anniversary Week. Former Director Harold Brown participates via teleconference, while Director Emeritus Edward Teller is represented via video presentation. The directors discuss memorable moments from their tenure and the changes they have seen at the Lab. Director Michael Anastasio hosts the event.

Ambassador Linton Brooks of NNSA, Adm. James Ellis of Strategic Command, Gen. John Gordon of the White House and Richard Atkinson, UC president, salute the Lab for 50 years of service to the nation on the fifth day of Anniversary Week. All present the Lab with special plaques, proclamations or other gifts, including DOE's Gold Award, the highest honor bestowed by the department. Atkinson also presents UC President's Medals to former directors Edward Teller, Harold Brown, John Foster and Mike May (Herb York had previously received a medal).

Former Defense Secretary William Perry leads a panel discussion on the future of science as part of the Center for Global Security Research's "futures conference." The conference also features a video teleconference with Sir Arthur C. Clarke, author of "2001, A Space Odyssey."

The anniversary week closes with a two-day Open House, in which 12,000 employees, their family members and friends visit the Lab throughout the weekend for various tours and hands-on interaction with science and technology.

**Science & technology**

Laboratory geochemist Ian Hutcheon, teaming with researchers from the Royal Ontario Museum, the University of Hawaii and Moscow State University, accurately dates calcium-rich inclusions, the oldest objects in our solar system, to be about 4.57 billion years old.

Everet Beckner, NNSA deputy administrator for Defense Programs, joins Defense & Nuclear Technology AD Bruce Goodwin to present nine "Weapons Recognition of Excellence Awards" to various Laboratory scientists and research teams.

**People**

Defense & Nuclear Technologies AD Bruce Goodwin and physicist Ben Santer are winners of the prestigious E.O. Lawrence Award for their outstanding contributions in the field of atomic energy. Goodwin is named for his work in national security while Santer is honored for his work in environmental science and technology.

Congressman Richard Pombo visits the Lab for briefings on various programs, as well as a tour of NIF.

**Operations**

In an all-hands presentation, Director Michael Anastasio tells employees the Lab is ready to seize opportunities and take on new challenges. He also calls for a new science and technology investment strategy that will position the Lab for the future.

The Lab recalls the events of Sept. 11, 2001 with a special tribute to employees who were called to assist in rescue, cleanup, counterterrorism and safeguarding efforts following the attacks on the World Trade Center and Pentagon. Director Michael Anastasio hosts the tribute, carried live on Lab TV and featuring a moment of silence, color guard and a memorial tribute to rescue workers killed on Sept. 11, as well as recollections of employees who were either in Washington, DC at the time of the attack or called out to the World Trade Center during rescue and recovery attempts. The tribute also features the unveiling of a special quilt by Livermore school children, and performances by a specially assembled Lab choir.

DOE awards the Laboratory's Facilitated Diversity



**During the Lab's 50th Anniversary Celebration week, directors panel members included Michael Anastasio, Bruce Tarter, John Nuckolls, Mike May, John Foster and Herb York. Harold Brown participated via teleconference; Edward Teller was represented via video presentation.**

Dialogue Series, which allows employees to explore key diversity issues in small discussion groups, with an Equal Employment Opportunity/Diversity Best Practice Award.

The Laboratory's beryllium medical surveillance program enters the final stages of its two-year effort to identify and screen employees who may have worked in areas where the metal was used.

The annual Salary Review Process gets under way.

The Career Center kicks off its new Lunchtime Learning, a series of programs on work/life balance, time management, career enhancement and much more.

## october

**Science & technology**

The Nonproliferation, Arms Control and International Security Directorate marks its 10th anniversary.

The Joint Genome Institute holds a science "jam-boree" in which scientists from around the nation gather to examine the genomes of bacterial "bugs" that ferment foods. Analyzing the bacteria provides scientists with ways to enhance food preservation and safety.

Lab teams win six R&D 100 awards for topflight technologies with commercial potential. The winning technologies are the Solid-State Heat-Capacity Laser, the Silicon Monolithic Microchannel Cooled Laser Diode Array, In Situ Rolling Circle Amplification, the STIM-2002 medical device, Production-Scale Thin Film Coating Tool and Hierarchical Data Format 5.

Lab officials, in collaboration with UC Davis and eight other academic institutions, announce a new \$52 million Center for Biophotonics Science and Technology to study the use of light and radiant energy in biology and medicine.

Researchers develop an advanced supercomputer model for explaining high-explosive detonation.

Hal Graboske, acting deputy director for Science & Technology, unveils plans to review the Lab's science and technology investment strategy to ensure the Lab remains at the forefront of cutting-edge research and development.

**People**

Glenn Mara is named the deputy director for Operations.

Lab employees Michael Carter and Greg Suski are part of the transition planning office for the new Homeland Security Department.

Kathleen Hardcastle is named manager of Compensation, Benefits and Worklife Programs and Art Wong is named manager of Staffing and Employee Development in the Administration and Human Resources Directorate.

Lab physicist Kennedy Reed is named the 2003 recipient of the American Physical Society's John Wheatley Award. The award is given to a physicist who, working in a developing country, has made an outstanding contribution to the development of physics in that region. Reed is cited for his work to promote physics research and education in Africa.

Ken Giannotti, LLESA's manager since 1986, retires.

**Operations**

Director Michael Anastasio announces workforce reviews to "ensure the vitality of the workforce." The reviews are conducted to gauge directorate and program workforce goals and how those goals will enable each directorate to accomplish its missions.

The Laboratory kicks off its new flexible work sched-

ule, featuring 9/80 and 4/10 workweeks, among other options.

The Laboratory receives the American Indian Spirit Award from the Council of Energy Resource Tribes for "continued dedication and commitment to Native American education and leadership." Executive Officer Ron Cochran accepts the award on behalf of the Lab.

More than 120 middle school, high school and community college teachers come to the Lab for a two-day science and tech-

nology symposium.

The Lab celebrates Hispanic Heritage Month.

The Lab's Spotlight on Science community lecture series returns with a look at counterterrorism. SAFE Program Manager Terry Turchie is the speaker.

UC announces increasing costs in health care plans will affect all employees. While UC absorbs most of the cost increase, employees will have to pay for a portion of the costs. Throughout the month health care plan representatives come to the Lab to meet with employees.

The Lab kicks off its annual Home Campaign to raise money for area nonprofit agencies and other charitable organizations. The campaign hopes to raise \$1.4 million.

Washington Mutual awards a \$50,000 grant to the Edward Teller Education Center to enhance professional development of science teachers in rural schools.

Representatives from NNSA, UC and the Laboratory meet in Washington to evaluate the UC-managed DOE labs' performance in five major management contract initiatives. NNSA's overall conclusion is that UC and the labs have successfully "passed" all contract requirements.

Steel beam construction for the Terascale Simulation Facility is completed. The first phase of the building's construction is due for completion in 2004, in time to house the ASCI Purple 60-plus teraflop computer.

## november

**Science & technology**

In an effort to stabilize climate and slow down global warming, Lab scientists, along with a team of international researchers, evaluate a series of new primary energy sources that limit or curtail the release of carbon dioxide to the atmosphere.

Lab astrophysicists are key players in an international consortium of scientists that will study stardust being brought back to Earth from the comet Wild 2 by NASA's Stardust space mission.

Secretary of Energy Spencer Abraham announces that IBM has won the \$290 million, multi-year contract to build the two fastest supercomputers in the world for DOE's Advanced Simulation and Computing (ASC) program. Both computers — "Purple" and "BlueGene/L" — will be housed at the Laboratory when delivered in fiscal year 2005.

**People**

UC President Richard Atkinson announces his intention to retire as president effective Oct. 1, 2003.

Rep. Ellen Tauscher visits the Lab to provide an update on efforts in Washington to establish a federal Department of Homeland Security. She also tours the Decontamination and Waste Treatment Facility.

John Gannon and William Lyerly of the federal government's Homeland Security Transition Planning Office, visit the Lab.

Seven Lab physicists are named fellows of the American Physical Society. They are Tomas Diaz de la Rubia, Yu-Jiuan Chen, Forrest Rogers, Barbara Lasinski, Otto Landen, Andrew McMahan and Donald Prosnitz.

Mimi Alford of the Lab's Television Network receives an Aegis Award for her work as producer of "A Journey Through Time... The History of Engineering at LLNL." The national award recognizes excellence in video and

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2002

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film production among non-broadcast organizations.

Operations

On a trial basis, Site 300 shifts to a 4/10 work schedule, with employees working 10 hours per day, Monday through Thursday.

Rokaya Al-Ayat is appointed associate deputy director for Science and Technology.

The quality management system of the Engineering Manufacturing & Services Section is renewed and upgraded to compliance with International Standard Organization ISO 9001:2000 — a worldwide benchmark used by industry for assuring high quality and customer satisfaction in design, production, installation and service.

Congress takes a significant step ahead in homeland defense by signing a bill to form the new Department of Homeland Security.

The Lab's 50th anniversary time capsule, filled with memorabilia of the year's events as well as examples of major programs under way in 2002, is buried in the Discovery Center patio.

december

Science & technology

Laboratory engineers develop a microelectrode array for a multi-laboratory DOE project to construct an artificial retina or "epiretinal prosthesis."

Lab researcher Graham Bench, along with colleagues from Colorado State University, show that forest fires likely contributed to periods of regional haze in Yosemite National Park in 2002.

The Lab's Analytical Conflict and Tactical Simulation (ACATS) computer code is tested by civilian emergency responders as a training tool to prepare for terrorist attacks.

The Lab's new computer-based Homeland Operations Planning System (HOPS) assists agencies — including the California National Guard and the Los Angeles County Sheriff's Department — in planning for prevention and response to terrorist attack.

NIF reaches a major milestone in activating the first



Director Michael Anastasio and NAI AD Wayne Shotts answer questions from the media, which turned out in force for an announcement that the Lab is creating a Homeland Security Organization.

four of its 192 laser beams. At the end of a series of shots, the four beams generate a total of more than 43 kilojoules of infrared light in a pulse lasting five-billionths of a second.

Using models that simulate the interaction between global climate and land ecosystems, Lab atmospheric scientists show that compensating for the carbon dioxide "greenhouse effect" by decreasing the amount of sunlight reaching the planet could create a more vigorous ecosystem while helping to curb global warming.

Lab environmental scientists determine that public groundwater supplies in the western portion of the Livermore-Amador Valley Groundwater Basin is less vulnerable to contamination from surface activities such as leaking fuel storage tanks than water in the eastern portion of the basin.

A study by Lab researchers raised concerns about interactions between dietary carcinogens and herbal tonics used as complementary or alternative therapy by cancer patients.

People

Energy Secretary Spencer Abraham makes his first visit to the Laboratory, addressing employees, receiving briefings on the Lab's stockpile stewardship and nonproliferation programs, and touring the National Ignition Facility. Secretary Abraham also presents Director Emeritus Edward Teller with the Gold Award, the Department of Energy's highest honor.

Penrose Albright, senior director for Research and Development at the Office of Homeland Security,

speaks at the Lab, describing how LLNL is a part of a multi-disciplinary team that will contribute to the U.S. Department of Homeland Security.

Steve Allen of the Physics and Advanced Technologies Directorate is named to the American Physical Society's Division of Plasma Physics Distinguished Lecturers program for 2002-2003.

Steve Goodman is named the new general manager of LLESA.

Operations

The Nevada Test Site Historical Foundation Museum is under construction, slated to open its doors on the University of Nevada Las Vegas/Desert Research Institute campus in October 2003.

The Laboratory changes the way it handles review and release of various documents. A new system called Information Management will allow directorates and programs to more easily track and control their information, incorporate an online system and focus on the review of information rather than the release of documents.

The Protective Force Division names three new captains: Gary Abundis, Dan Judd and Charles Johnson.

Director Anastasio announces creation of a new Homeland Security Organization at the Laboratory, naming Wayne Shotts, AD for Nonproliferation, Arms Control and International Security, to lead the new Lab initiative.

The 2002 HOME Campaign raises \$1.4 million for charity. This is the fifth straight year that the fund-raising campaign has set a new record for contributions.

An assessment by NNSA determines that the Lab's proposed Biosafety Level 3 Facility is expected to produce no significant environmental impacts, and that potential consequences from routine operations at the facility would be minimal.

The Laboratory is named "Employer of the Year" by the Bay Area Job Developers Consortium for Plant Engineering's job outreach efforts.

The machinist apprenticeship program in the Manufacturing & Materials Engineering Division returns with the hiring of three apprentices, the first in more than a decade.

The National Nuclear Security Administration announces a reorganization that will eliminate operational offices in Oakland, Las Vegas and Albuquerque, and reduce personnel by 20 percent.

HOMELAND

Continued from page 1

gamma-ray radiation detection instrument. While such instruments are normally restricted to laboratory use, the Cryo3 can go into the field.

Rep. Ellen Tauscher joined Lab officials in April to break ground for the new International Security Research Facility, which will assist researchers who analyze national security threats posed by the proliferation of weapons of mass destruction.

In May, it was announced that the Joint Genome Institute would be determining the entire genome sequences of a number of infectious bacteria as a way to speed their detection in the environment.

Also in May, the Laboratory proposed a program to provide cities and counties with atmospheric plume prediction capabilities for chemical and biological agents. Seattle has been selected as the first pilot city to demonstrate the new technology. The program is called LINC, short for Local Integration of National Atmospheric Release Advisory Center with Cities.

Throughout 2002, steps were taken toward the

construction of a new biosafety analytical laboratory that would allow researchers to develop detection technologies for a wide array of microorganisms. In July, an environmental assessment for the proposed facility was filed. The study later found the project could proceed and would not have a significant environmental impact.

In August, Lab researchers unveiled a new cargo container test bed facility designed to test commercial instruments — and develop new technologies — for detecting nuclear materials inside the millions of cargo containers that enter the United States. A press conference to announce the project produced seven television news stories.

In September and October, two LLNL employees — Mike Carter and Greg Suski — went to work in the nation's capital providing assistance to the Homeland Security Department's transition planning office.

During a December press conference, Director Michael Anastasio announced the creation of a new Homeland Security Organization and named Wayne Shotts to lead the new Laboratory initiative. Two new technologies were also introduced. One, the Analyti-

cal Conflict and Tactical Simulation, analyzes concepts of operation, technology and training to assist emergency responders. The other, the Homeland Operations Planning Systems is a Web-based information system that can model buildings, stadiums, convention centers and landmarks that might be terrorist targets.

The past year has been dynamic as Lab researchers have worked to counter terrorism, with dozens going on deployments in the months and year after Sept. 11. The year 2003 promises more challenges and opportunities for science and technology from the national labs to be used in the fight against terrorism.



TRANSITION

Continued from page 1

A groundbreaking ceremony was also held in April for NAI's International Security Research Facility, which will consolidate Livermore's non-proliferation and intelligence operations into a single building.

One of the nation's premier hydrotest facility's — the Contained Firing Facility (CFF) at Site 300 — was activated in February after a two-year shut-down for construction of an enclosed explosives testing chamber and upgrade of the flash X-

ray (FXR) diagnostic machine. The CFF plays a key role in fulfilling the Lab's stockpile stewardship mission.

The National Ignition Facility beamed to life in December, reaching a major milestone when four of its 192 laser beams were activated for the first time.

Capping a year of events celebrating the Lab's 50th anniversary, Director Emeritus Edward Teller was awarded DOE's highest honor, the prestigious Gold Award, by Energy Secretary Spencer Abraham in a special December ceremony. The award recognized Teller's "outstanding contributions to science and the security of the nation."

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